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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/567,460

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EXAMINER

CHANG, SUNRAY

ART UNIT

PAPER NUMBER

2121

MAIL DATE

DELIVERY MODE

09/19/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/567,460	Applicant(s) AOKI ET AL.	
	Examiner Sunray R. Chang	Art Unit 2121	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 February 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 8-13 is/are pending in the application.
- 4a) Of the above claim(s) 1-7 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 8-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 February 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>20060207</u> . | 6) <input type="checkbox"/> Other: _____ |

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Examiner's Detailed Office Action

1. This Office Action is responsive to communication, filed on February 7th, 2006.
Claims 1 – 7 have been cancelled from consideration on February 7th, 2006.

Information Disclosure Statement

2. The information disclosure statement (IDS) submitted to disclose 37 C.F.R. 1.56 all pertinent information and material pertaining to the patentability of applicant's claimed invention, on February 7th, 2006 has been considered by the examiner.

Drawings

3. The formal drawings submitted have been reviewed by the Office of Initial Patent Examination (OIPE) and/or the USPTO Office of Draftperson's Patent Drawings Review.

Claim Objections

4. Claims 8 and 10 are objected to because of the following informalities:

The "second processing unit", as claimed in 4th paragraph of both claims 8 and 10 includes 3 rules: 1st "to output", 2nd "to block if not normally generated" and 3rd "to output if not normally generated and continued for a duration"; therein the 2nd limitation would render the 3rd limitation to be moot. Since the frame has been determined as abnormally generated, (2nd), the output to the apparatus would be blocked at the first

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place, there should be another device which can be used for ignoring the 2nd rule.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. **Claim(s) 8 – 13** is/are rejected under 35 U.S.C. 102(b) as being anticipated by Akihiro Yamashita (U.S. Patent No. 5,822,615, and referred to as **Yamashita** hereinafter).

Regarding **claim(s) 8**, **Yamashita** discloses,

- A control system utilizing serial-data communication, in which the serial-data communication between a host control apparatus and at least one client control apparatus is performed, [a distributed type remote I/O control system according to the present invention, bidirectional serial transmission between the basic system of the control unit and each of the distributed type remote I/O units is executed by means of time division, col. 5, lines 7 – 11] the control system comprising:

The examiner further explains, the prior art in **Yamashita** reference as indicated in fig.

31, the basic NC unit and each remote I/O unit has a MPU for controlling the communication. and the I/O units are used for controlling mechanical devices (equipments to be controlled).

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- a first processing unit configured in the host control apparatus to embed emergency-stop data in a serial-data communication frame when a malfunction occurs inside the host control apparatus, **or** when an emergency-stop signal is inputted to the host control apparatus, to embed predetermined frame-error check data in the serial-data communication frame each time the serial-data communication frame is generated, and to output the frame to the client control apparatus; [if the basic system of the NC unit stops its system operation for some reason... col. 20, lines 63 – 64; in the basic system of the NC unit 1, data write for data to be transmitted to the distributed type remote I/O unit 2, col. 16, lines 25 – 27, fig. 5 (block diagram for basic NC unit); see further col. 15, lines 19 – 63, col. 20, line 63 – col. 21, line 33]
- an extracting unit configured in the client control apparatus to extract the emergency-stop data and the frame-error check data from the frame that is transmitted from the host control apparatus to the client control apparatus; [demodulation circuit for demodulating a receiving frame, col. 17, lines 11 – 30] and
- a second processing unit configured in the client control apparatus [a mechanical device, col. 1, lines 64 – 65] to determine whether or not the frame has been generated normally in the host control apparatus by checking the frame-error check data extracted by the extracting unit, [CRC comparator, col. 17, lines 11 – 30]
- to output to an apparatus to be controlled the emergency-stop data when the emergency-stop data is embedded in the serial-data communication frame, and the frame is generated normally in the host control apparatus, to block output of the emergency-stop data to the apparatus to be controlled when the emergency-stop data is embedded in the serial-data

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communication frame, and the frames is not generated normally in the host control apparatus, and to output to the apparatus to be controlled the emergency-stop data when condition in which the frame is not generated normally in the host control apparatus is continued for a duration corresponding to a plurality of frames. [sending a transmission frame having a header pattern indicating that a CRC error ... stops operation of the system, col. 25, lines 53 – 67; further see col. 33, lines 4 – 48]

Regarding **claim(s) 9**, data frame sent from client to host instead of from host to client as claimed in claim 8, which can be found in **Yamashita**'s teaching, similar with paragraphs cited above and further with fig. 6 – 8, col. 16, line 25 to col. 18, line 14.

Regarding **claim(s) 10**,

Claim 10 has been rejected based on **Yamashita** reference, which claims sending data frame both “from client to host” and “from host to client” which is a combination of claim 8 and 9 would be rejected as indicated above.

Regarding **claim(s) 11**,

- the first processing unit generates the frame-error check data to which a specific numerical value is added when the frame is generated normally each time the serial-data communication frame is generated, and embeds the generated frame-error check data in the frame; and wherein the second processing unit compares previously received frame-error check data with presently received frame-error check data and determines that the frame is

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not generated normally when a difference value between the previously received frame-error check data and the presently received frame-error check data is different from the specific numerical value. [a CRC generator for generating CRC data to be added for detecting an error in an transmission frame, col. 13, lines 47 – 63; see further col. 25, lines 32 – 67]

Regarding **claim(s) 12**,

- a third processing unit configured in the client control apparatus to embed the emergency-stop data generated by the other client control apparatus in the frame to be outputted by the client control apparatus, and to transmit the frame to the host control apparatus and/or the other client control apparatus. [col. 28, line 65 – col. 29, line 4]

Regarding **claim(s) 13**,

- a counting unit configured in the host control apparatus and/or the client control apparatus to count the number of the received frames; [a CRC generator for generating CRC data to be added for detecting an error in an transmission frame, col. 13, lines 47 – 63; see further col. 25, lines 32 – 67] and
- a third processing unit configured in the host control apparatus and/or the client control apparatus to output the emergency-stop signal in the case where a specific number of frames are not received. [a CRC generator 504 for generating CRC data to be added for detection of an error in a transmission frame, col. 16, lines 46 – 58; CRC error, col. 25, lines 53 – 67]

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Correspondence Information

6. Any inquires concerning this communication or earlier communications from the examiner should be directed to Sunray Chang, who may be reached Monday through Friday, between 6:00 a.m. and 3:00 p.m. EST. or via telephone at (571) 272-3682 or facsimile transmission (571) 273-3682 or email sunray.chang@uspto.gov.

If you need to send an Official facsimile transmission, please send it to (571) 273-8300.

If attempts to reach the examiner are unsuccessful in the regular office hour, the Examiner's Supervisor, Albert Decady, may be reached at (571) 272-3819.

Hand-delivered responses should be delivered to the Receptionist @ (Customer Service Window Randolph Building 401 Dulany Street Alexandria, VA 22313), located on the first floor of the south side of the Randolph Building.

Finally, information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Moreover, status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have any questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) toll-free @ 1-866-217-9197.

Sunray Chang

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U.S. Patent & Trademark Office

/Albert DeCady/

Supervisory Patent Examiner, Art Unit 2121

September 19, 2008
